Abstract:

A system and a method for interpreting native code to move threads to a safe state in a run-time environment. In a runtime system or virtual machine (VM) environment, threads process requests to the VM. In many instances such as garbage collection, context switching, and single CPU locking, the threads must be stopped in a safe state for the operation to successfully complete. The invention can be used to ensure that a thread is stopped in such a safe state. In accordance with an embodiment of the invention, when a first thread A is stopped by a second thread B, if A is not in a safe state the invention allows thread B to roll thread A forward to a safe state by interpreting the machine instruction currently is at A. A's state is then updated accordingly.